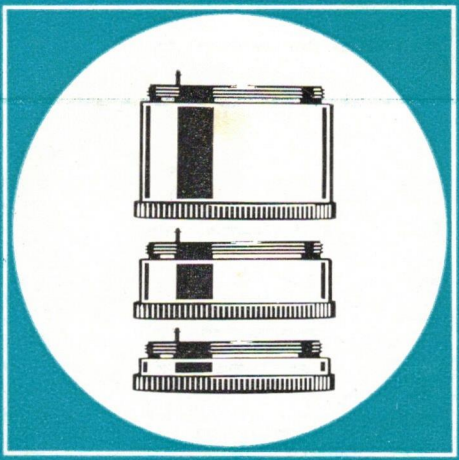
PENTACON

Zwischenringe für PRAKTICA-Kameras und PENTACON super
Intermediate Rings for PRAKTICA Cameras and PENTACON super
Tubes-allonges pour appareils PRAKTICA et PENTACON super
Anillos intermedios paras las cámaras PRAKTICA y PENTACON super



BEDIENUNGSANLEITUNG
INSTRUCTIONS FOR USE
MODE D'EMPLOI
INSTRUCCIONES PARA EL USO

Abbildung 1
Einfache Zwischenringe

Figure 1
Plain intermediate rings (Order no. 208 510)

Figure 1
Tubes-allonges simples (No. de commande 208 510)

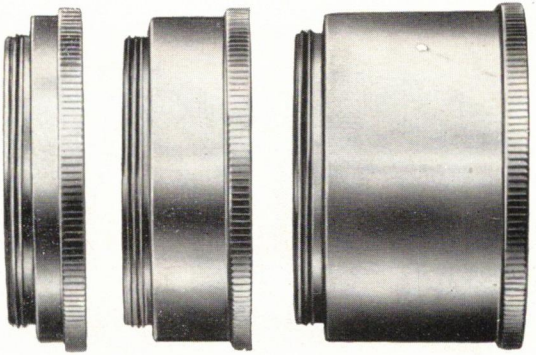
Figura 1
Anillos intermedios sencillos (No. de pedido 208 510)

Abbildung 2
Stößelzwischenringe (208 830)

Figure 2
Intermediate rings with plunger (208 830)

Figure 2
Tubes-allonges à broche de transmission (208 830)

Figura 2
Anillos intermedios de taqués (208 830)



208.510-01 208.510-02 208.510-03

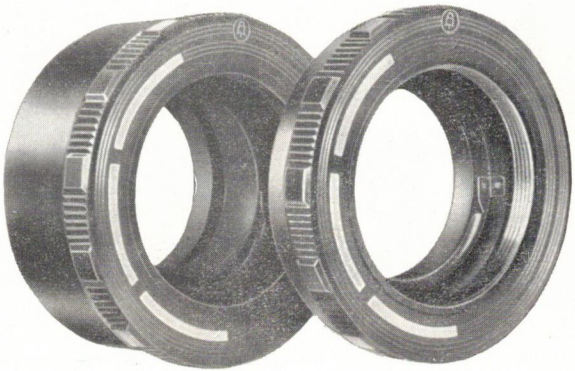


Abbildung 3

Stößelzwischenringe
mit elektrischer Blendenwertübertragung (208 400)

Figure 3

Intermediate rings with plunger with electric transmission of diaphragm values (208 400)

Figure 3

Tubes-allonges à broche à transmission électrique de la valeur du diaphragme (208 400)

Figura 3

Anillos intermedios de taqués
con transmisión eléctrica del valor de diafragma (208 400)

Abbildung 4
Umkehrring (208 580)

Figure 4
Reversing ring (208 580)

Figure 4
Bague d'inversion (208 580)

Figura 4
Anillo inversor (208 580)

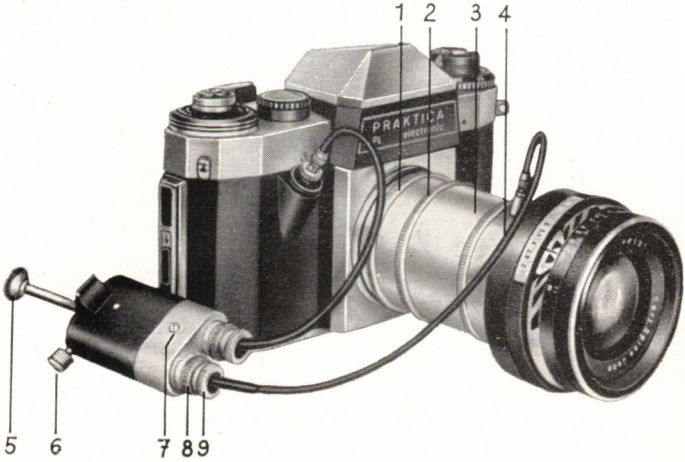


Abbildung 5
Kombination: einfache Zwischenringe mit Spezialzwischenring und Doppeldrahtauslöser

Figure 5
Combination: plain intermediate rings with special intermediate ring and double cable release

Figure 5
Combinaison: tubes-allonges simples à bague spéciale et double déclencheur à câbles

Figura 5
Combinación: Anillos intermedios sencillos con anillo intermedio especial y disparador de doble cable

Einzelteile der auf Seite 4 Abb. 5 gezeigten Kombination

1 Zwischenring Nr. 1 (208 510 – 01)
2 Zwischenring Nr. 2 (208 510 – 02)
3 Zwischenring Nr. 3 (208 510 – 03)
4 Zwischenring Nr. 4 (208 540)
5 Auslöseknopf des Doppeldrahtauslösers (210050)
6 Rändelschraube des Doppeldrahtauslösers
7 Knopf
8 Kontermutter
9 Gewindehülse

Components of the combination shown at page 4 fig. 5

1 intermediate ring no. 1 (208 510 – 01)
2 intermediate ring no. 2 (208 510 – 02)
3 intermediate ring no. 3 (208 510 – 03)
4 intermediate ring no. 4 (208 540)
5 release knob of the double cable release (210050)
6 milled screw
7 knob
8 counter nut
9 threaded socket

Eléments de la combinaison représentée page 4 fig. 5

1 tube-allonge no. 1 (208 510 – 01)
2 tube-allonge no. 2 (208 510 – 02)
3 tube-allonge no. 3 (208 510 – 03)
4 tube-allonge no. 4 (208 540)
5 poussoir du double déclencheur à câbles (210050)
6 vis à tête molettée
7 bouton
8 contre-écrou
9 douille filetée

Piezas sueltas de la combinación mostrada en la página 4, figura 5

1 Anillo intermedio No. 1 (208 510 – 01)
2 Anillo intermedio No. 2 (208 510 – 02)
3 Anillo intermedio No. 3 (208 510 – 03)
4 Anillo intermedio No 4 (208 540)
5 Botón disparador del disparador de doble cable (210050)
6 Tornillo moleteado
7 Botón
8 contratuerca
9 Manguito roscado

1. General notes

The genuine single-lens reflex camera helps you to penetrate with unparalleled ease into the interesting and fascinating sphere of close-up photography. Here too, in exactly the same manner as when taking ordinary snapshots, you are able to check picture composition, definition, and depth of field in the unique viewfinder system of this camera type. Then there is the possibility of exchanging lenses, and the focal-plane shutter which is in a position quite apart from the lens, thus enabling you to construct a very simple extension of the lens by inserting Intermediate Rings. As you may know, an extension of this kind is necessary if you wish to move closer up to your subject than the helical focusing mechanism of your lens permits. Perhaps you will remember the double, or triple, extension of the old plate cameras. With the Intermediate Rings (or with the Close-up Bellows Attachment) you achieve the same result. You are able to photograph small objects, even very tiny ones, or details thereof, in natural size (1:1) or larger. To make things quite clear, we would like to acquaint you here with a few terms that you will come upon occasionally in this instruction manual. Image distance ist the distance between the film plane and the lens and subject distance is the distance between the lens and the subject to be photographed. The tables included in these instructions for use are intended to give information regarding the scales of reproduction (β') resulting from the use of Intermediate Ring or any specific combination of Intermediate Rings. Since an increase in image distance (caused by the use of Intermediate Rings) leads to a decrease in image brightness, prolongation of the exposure time, compared with that for the normal snapshot, becomes necessary. That is why the exposure factors required for each one of the extension combinations are contained in the tables referred to above. Should you, however, possess a camera with TTL metering (e. g. a PRAKTICA super TL), you will have no arithmetical problems to solve, for any modefication which might be necessary as a result of using extension equipment is automatically taken into account by the internal metering system.

Intermediate Rings for the various PRAKTICA models are available as follows:

Set of Intermediate Rings 208 510, consisting of three plain rings 7, 14 and 28 mm in size. An additional Intermediate Ring (No. 208 540), for connection with the Double Cable Release (No. 210 050) may be inserted to keep the automatic diaphragm mechanism operative.

Fig. 1 (page 1)

Set of Intermediate Rings 208 830, consisting of three Intermediate Rings with Plunger, 7, 14 and 28 mm in size. The plunger causes the automatic diaphragm to remain operative.

Fig. 2 (page 1)

The Set of Intermediate Rings 208 833 consists of two Intermediate Rings with Punger, 14 and 28 mm in size, especially designed for the PENTACON super. In conjunction with the 55 mm Pancolar f/1.4 practically the entire range of image scales up to $\beta' = 1$ are obtained. This set of rings can be employed also in connection with all the camera models of the PRAKTICA family.

Set of Intermediate Rings. No. 208 400, consisting of two Intermediate Rings with Plunger, with additional facility for the electric diaphragm control,

12.5 mm and 25 mm in size. This set of rings has been designed first and foremost for the PRAKTICA LLC, but it can also be used with the other PRAKTICA models.

Fig. 3 (page 2)

Continuous variability of the extension up to an image scale of 2x is possible with the aid of the Close-up Bellows Attachment.

2. The plain Intermediate Rings (fig. 1)

The Rings are screwed in between lens and camera by means of their inner or outer threads, as the case may be. Depending upon the scale of reproduction required, they are either combined or used singly.

Using these plain Intermediate Rings puts the automatic diaphragm control out of action because the rim projecting into the interior of the rings pushes in the diaphragm pin. It is, however, possible to maintain automatic diaphragm control, as described in Section 4.

The lens is stopped down as follows:

a) Lenses with spring diaphragm (SD):
Push the diaphragm setting ring towards the camera body and let it click in at the desired aperture numeral.

b) Lenses with automatic pressure diaphragm (APD)
Rotate the diaphragm ring to set the desired aperture.

c) Lenses with pre-set diaphragm or ordinary adjustable diaphragm are operated as is usual for any other exposure.

Prism finder or finder hood are employed in the customary manner for focusing, composing the picture and judging depth of field. Focusing is performed most effectively by modification of the subject distance. If you are taking your pictures from a tripod it is advisable to use the Focusing Slide.

3. Prolongation of the exposure time

In close-up photography, the increase in extension requires an adequate prolongation of the exposure time which has been indicated by the meter reading. The following Table 1, therefore, shows the scales of reproduction (β') and the extension factors (v) for the exposure. Table 2 shows the scales of reproduction and the extension factors required if the Intermediate Rings are being used in combination with supplementary lenses.

Table 1 Intermediate Rings in combination with the standard 50 mm lens

Ring No.	Depth of ring (mm)	Scale of image (β')	Size of object area (mm)	Lens to subject distance (mm)	Exposure factor (v)
	no ring	– 0.14	– 172 x 257	– 407	– 1.3
1	7	0.14 – 0.28	172 x 257 – 86 x 128	407 – 228	1.3 – 1.6
2	14	0.28 – 0.42	86 x 128 – 57 x 86	228 – 169	1.6 – 2.0
1+2	21	0.42 – 0.56	57 x 86 – 43 x 64	169 – 140	2.0 – 2.4
3	28	0.56 – 0.70	43 x 64 – 34 x 51	140 – 122	2.4 – 2.9
1+3	35	0.70 – 0.84	34 x 51 – 28 x 43	122 – 110	2.9 – 3.4
2+3	42	0.84 – 0.98	28 x 43 – 25 x 37	110 – 100	3.4 – 3.9
1+2+3	49	0.98 – 1.12	25 x 37 – 21 x 32	100 – 95	3.9 – 4.5

Table 2 Intermediate Rings in combination with supplementary lenses

Ring No.	Focal length of lens (mm)							
	35		75 and 80		100		135	
	(β')	(v)	(β')	(v)	(β')	(v)	(β')	(v)
1	0.20	1.3	0.09	1.2	0.07	1.3	0.05	1.2
2	0.40	1.6	0.18	1.4	0.14	1.5	0.10	1.3
1+2	0.60	1.9	0.28	1.6	0.21	1.8	0.16	1.6
3	0.80	2.3	0.37	1.9	0.28	2.2	0.21	1.8
1+3	1.00	2.6	0.47	2.2	0.35	2.5	0.26	2.0
2+3	1.20	3.1	0.56	2.4	0.42	2.8	0.31	2.3
1+2+3	1.40	3.5	0.65	2.7	0.49	3.3	0.36	2.5

The values apply to the lens focussed to infinity and are calculated with due consideration given to pupil enlargement.

For example:

Corresponding to the aperture setting of your camera, your light meter indicates an exposure speed of 1/60 sec. You are working on an image scale β' of 0.4. Thus, for the standard focal length of 50 mm Table 1 shows the exposure factor v = 2, which means that you have to multiply 1/60 sec. x 2 = 1/30 sec.

Recomputation of the exposure time is not necessary if cameras with an internal metering system (PRAKTICA super TL, PENTACON super or PRAKTICA LLC) are being used, since the internal metering in these camera models automatically takes all correction factors into account.

Extreme wide-angle lenses should not be used for close-up photography. That is why the information in Table 2 is given for lenses not under 35 mm focal length.

4. Maintaining automatic diaphragm control while using plain Intermediate Rings (fig. 5)

With the plain Intermediate Rings (Fig. 1), or the Close-up Bellows Attachment in use, the automatic diaphragm mechanism – as already mentioned – first of all becomes inactive. To keep it functioning in close-up work, the Special Intermediate Ring No. 4 (order No. 208 540) with cable release connection, and Double Cable Release (order No. 210 050) are required.

The additional Ring No. 4 always has to be fitted directly to the lens mount. It is equipped with a device to operate the automatic diaphragm. This device is actuated by a cable release to be screwed into the connecting socket in the ring. The shutter release in the camera and the automatic diaphragm are operated simultaneously by means of a Double Cable Release. The shorter release cable is screwed into the release knob of the camera and the longer one into the socket of the Intermediate Ring.

The cable release has to be adjusted but once beforehand to the camera lens with which it is to be used, in such a manner that slow depression of the release knob (5) on the cable release first closes the diaphragm and immediately afterwards actuates the shutter.

Adjustment is performed by loosening the two counter nuts (8) and screwing the threaded sockets (9) in or out, as required. The deeper the sockets are screwed in, the sooner the camera, or diaphragm mechanism, will be released. After the adjustment is completed, hold the threaded sockets (9) fast and tighten the two counter nuts (8) again.

For long time exposures the release may be locked by tightening the milled screw (6). The shutter does not close until this screw has loosened. By pressure on the little knob (7) the metal casing holding the two threaded sockets with the cables may be pulled away from the body of the Double Cable Release, thus permitting the release cables to be exchanged, if necessary.

Fig. 5 (page 4)

The following Table 3 shows the exposure factors to be applied when additionally using the Special Intermediate Ring No. 4. For cameras with an internal metering system – as already mentioned before – it is not necessary to correct the exposure time.

Table 3 Intermediate Rings No. 1, 2 and 3 with Special Intermediate Ring No. 4 in combination with the standard 50 mm lens

Ring No.	Depth of ring (mm)	Scale of image (β')	Size of object area (mm)	Lens to subject distance (mm)	Exposure factor (v)
4	14	0.28 – 0.42	86 x 128 – 57 x 86	228 – 169	1.6 – 2.0
1+4	21	0.42 – 0.56	57 x 86 – 43 x 64	169 – 140	2.0 – 2.4
2+4	28	0.56 – 0.70	43 x 64 – 34 x 51	140 – 122	2.4 – 2.9
1+2+4	35	0.70 – 0.84	34 x 51 – 28 x 43	122 – 110	2.9 – 3.4
3+4	42	0.84 – 0.98	28 x 43 – 24 x 37	110 – 100	3.4 – 3.9
1+3+4	49	0.98 – 1.12	24 x 37 – 21 x 32	100 – 95	3.9 – 4.5
2+3+4	56	1.12 – 1.26	21 x 32 – 19 x 29	95 – 90	4.5 – 5.1
1+2+3+4	63	1.26 – 1.40	19 x 29 – 17 x 26	90 – 85	5.1 – 5.8

5. Intermediate Rings with Plunger (figs. 2 and 3)

These Intermediate Rings are equipped with an internal plunger pin to maintain the connection between the camera and the diaphragm pin of the lens, so that it is not necessary to use the Special Intermediate Ring No. 4 with the Double Cable Release. Providing that these rings have the same measurements as the plain intermediate Rings without plunger, image scales and exposure factors will be identical with those given in Tables 1 and 2. However, when using Intermediate Rings with Plunger (208 400) 12.5 mm or 25 mm in size, designed for elektric diaphragm control, please refer to the following Tables 4 and 5.

Table 4 Intermediate Rings with plunger for electric transmission of the diaphragm values in connection with the standard 50 mm lens (long extension)

Ring No.	Depth of ring (mm)	Scale of image (β')	Size of object area (mm)	Lens to subject distance (mm)	Exposure factor (v)
	no ring	– 0.25	– 96 x 144	– 250	– 1.6
1	12.5	0.25 – 0.50	96 x 144 – 48 x 72	250 – 150	1.6 – 2.3
2	25	0.50 – 0.75	48 x 72 – 32 x 48	150 – 115	2.3 – 3.1
1+2	37.5	0.75 – 1.00	32 x 48 – 24 x 36	115 – 100	3.1 – 4.0

Table 5 Intermediate Rings with plunger for electric transmission of the diaphragm values in connection with supplementary lenses

Ring No.	Focal length of lens (mm)							
	35		75 and 80		100		135	
	(β')	(v)	(β')	(v)	(β')	(v)	(β')	(v)
1	0.36	1.5	0.17	1.4	0.12	1.4	0.09	1.3
2	0.72	2.1	0.33	1.8	0.25	2.0	0.18	1.7
1+2	1.07	3.8	0.5	2.3	0.38	2.7	0.28	2.2

The above figures are valid for the infinity setting of the lens. (see table 2)

6. The Reversing Ring (fig. 4)

Since the lenses of our cameras are built and optically corrected for a long subject distance and a short image distance, it becomes necessary in close-up exposures exceeding an image scale of 1.5 times, the prevailing conditions being just the opposite, to use the lens with its front rim facing the camera.

The Reversing Ring, which makes it possible to attach the lens in this way to the set of Intermediate Rings, therefore has, at one end, the camera thread (M 42 x 1) to screw into the Intermediate Rings, and at the other end the filter thread of the lens.

For most of the standard lenses M 49 x 0.75 (208 580),
for Pancolar 1.4/55 M 58 x 0.75 (208 582).

To actuate the spring diaphragm or the automatic pressure diaphragm of the lens, the Special Intermediate Ring No. 4 with Double Release is required, or the automatic diaphragm control may be switched off with the aid of a plain Intermediate Ring. These rings are screwed into the thread facing the subject.

Please read these Instructions for Use carefully. Improper handling of the equipment may cause damage for which we can accept no liability.

Further development in the manufacturing process may lead to slight alterations of the details given above.

Kombinat
VEB PENTACON DRESDEN

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